

REMARKS

Summary of the Amendment

Upon entry of the above amendment, claims 53 and 81 will have been amended.

Accordingly, claims 46 - 97 remain pending.

Summary of the Official Action

In the instant Office Action, the Examiner has indicated that claims 53 - 61 and 81 - 88 contain allowable subject matter and would be allowable if presented in independent forms that include the features of their base claims and any intervening claims. Further, the Examiner has rejected claims 46 - 52, 62 - 80, and 89- 97 over the art of record. By the present amendment and remarks, Applicants submit that the objections and rejections have been overcome, and respectfully request reconsideration of the outstanding Office Action and allowance of the present application.

Acknowledgment of Allowable Subject Matter

Applicants gratefully acknowledge the Examiner's indication that claims 53 - 61 and 81 - 88 contain allowable subject matter and would be allowable if presented in independent forms that include the features of their base claims and any intervening claims.

By the present amendment, claims 53 and 81 have been presented in independent forms that include the features of their base claims and intervening claims. Accordingly, Applicants submit that, as the scope of these claims has not been changed by the instant amendment, no estoppel should be deemed to attach.

Accordingly, Applicants request that the Examiner now indicate that claims 53 and 81, as well as claims 54 - 61 and 82 - 88 that depend therefrom, are allowable.

Traversal of Rejection Under 35 U.S.C. § 102(b)

Applicants traverse the rejection of claims 46, 47, 74, 75, and 76 under 35 U.S.C. § 102(b) as being anticipated by TURNER. The Examiner asserts that TURNER shows a device for making multiply paper in which the different plies are made in separate headboxes and couched together at their sides having more fines, and that column 2, lines 12 - 18 disclose that advantages of joining the plies using the surface having the most fines. Applicants traverse the Examiner's assertions.

Applicants' independent claim 46 recites, *inter alia*, at least two formers for forming at least two layers in which *each layer has a higher content of fines on one side* respectively, and a couching zone in which the at least two layers are couched together such that *each layer's side having a higher content of fines contact each other*, wherein at least one of the at least two formers comprises *at least one gap former*. Applicants' independent claim 75 recites, *inter alia*, forming at least two layers via at least two formers, such that *each layer has a side with a higher fines content*, and couching together the at least two layers in a couching zone so that *the sides with higher fines content contact each other*, wherein at least one of the two layers is formed by *at least one gap former*. Applicants submit that TURNER fails to disclose at least the above-noted features of the instant invention.

Applicants note that, while disclosing a multi-ply forming apparatus and process, TURNER fails to disclose a gap former arranged to produce a web layer having one side with higher fines content than the other, and, therefore, certainly fails to disclose joining the sides of the layers having the higher fines content together.

Applicants submit that the Examiner has made certain assumption of the TURNER process and apparatus based upon the disclosure in the instant application. In particular, the Examiner has misconstrued column 2, lines 12 - 18 of TURNER ("by dewatering through both surfaces of both the top and bottom plies, formation of the individual plies is accomplished faster and, equally important, the ply faces which come into ply bonding engagement are better prepared, by virtue of having more fines and less fillers at their surface, to remain permanently bonded together") to mean that one surface of each ply has a higher fines content than the other. Applicants note that the Examiner's misconception is based solely upon review of the instant application, and that TURNER provides no teaching for one ordinarily skilled in the art to arrive at the Examiner's interpretation of TURNER's disclosure.

In particular, TURNER specifically discloses that their process and apparatus are specially designed to join together ply faces that have "more fines and less fillers at their surface," and that this objective is achieved through dewatering both surfaces of each ply. (TURNER, column 2, lines 12 - 18). Thus, Applicants submit that the only reasonable

interpretation of TURNER's disclosure is that both surfaces of each ply are dewatered such that each surface of each ply contains a higher content of fines than a content of fillers.

However, Applicants submit that, having each surface of each ply having a higher fines to fillers content is not the same as a ply having one surface with a higher fines content than the other surface, which is recited in Applicants' claims. Further, because TURNER fails to provide any disclosure with regard to a comparison of fines content between opposite surfaces of each ply, the applied art fails to disclose the above-noted feature of Applicants' invention, as recited in at least independent claims 46 and 75.

In fact, Applicants note that even TURNER teaches against the Examiner's interpretation of TURNER. As is expressly disclosed at column 1, lines 52 - 66,

The top ply is formed between two forming wires along a gently undulating path where the dewatering process is carried out through both its faces *to produce a web which has a more uniform distribution of fines, fillers and fibers on both its sides*, thus providing its surfaces with a greater affinity for ply bonding. This dewatering through both sides not only produces a more uniform, one-sided web (i.e., a web wherein *both sides are more nearly the same after the dewatering process*), but in addition, this degree of dewatering of the top ply is accomplished quickly so it can have a higher caliper and still be brought into ply bonding contact with the surface of the base ply which may be formed on an ordinary fourdrinier-type papermaking machine.

[emphasis added]. Thus, Applicants submit that, as TURNER expressly discloses that it intends to produce a *uniform web* in which both sides are *more nearly the same* after dewatering, the Examiner's assertions of anticipation are contrary to the express disclosure of the applied document.

Further, Applicants note that, while the surfaces of the individual layers to be couched together according to the instant invention may have a higher fines content than filler content, in order to anticipate the instant invention TURNER must disclose every recited feature of the invention. Because TURNER fails to disclose that each layer has a higher fines content on one side, as recited in at least independent claims 46 and 75.

Moreover, Applicants note that, as TURNER expressly discloses that it intends to “produce a web having a *more uniform distribution* of fines, fillers and fibers *on both sides*, thus providing *its surfaces* with a greater affinity for ply bonding,” [emphasis added]. (TURNER, column 1, lines 54 - 57), TURNER fails to provide any teaching of couching together surfaces of individual plies having a higher fines content than its opposite ply surface. In other words, as TURNER’s disclosure is contrary to interpretation of forming individual plies having a higher fines content on one surface as compared to its other surface, TURNER certainly fails to provide any disclosure of couching together the surfaces of each ply having a higher content of fines than its other ply surface, as recited in at least independent claims 46 and 75. Instead, the only guidance provided by TURNER in the production of a layered web is that *both surfaces* of each ply are formed to be uniform and essentially the same, i.e., with a higher content of fines to fillers, so that each surface of each ply is provided with a greater affinity for ply bonding.

Thus, Applicants submit that, as TURNER fails to disclose every recited feature of

the instant invention, the Examiner has failed to provide any adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(b). Thus, Applicants submit that the instant rejection is improper and should be withdrawn.

Further, contrary to the Examiner's assertions, no admission has been made by Applicants that merely forming a web on a single wire produces a higher content of fines on the unsupported side, nor have Applicants admitted that it is well known that the unsupported side contains the most fines due to less dewatering. While the "Background of the Invention" section of the instant application identifies a number of known formers, this disclosure also sets forth specific action necessary to achieve a concentration of fines at a particular side of the web. For example, while a fourdrinier former is discussed, the background discussion provides that concentration of fines at the upper side is achieved with power pulses.

Moreover, notwithstanding Applicants' background discussion, Applicants note that TURNER fails to disclose that the employed fourdrinier former utilizes power pulses to control the concentration of fines, and specifically discloses that its process and apparatus utilize dewatering through both surfaces of both the top and bottom plies so that a desired uniformity and bonding affinity, i.e., a higher content of fines to fillers, for both sides is achieved.

Thus, Applicants note that, even if one were to consider Applicants' discussion of

background information as an admission, the disclosed apparatus and process of TURNER, which expressly discloses dewatering through both sides of each ply, is contrary to this disclosure. Moreover, it would not have been apparent to modify TURNER in view of this information because to do so would eliminate TURNER's intention of producing a uniform web in which each surface has an affinity for bonding by having a higher content of fines to fillers.

Because TURNER fails to disclose at least the above-noted features, Applicants submit that the applied art fails to disclose each and every recited feature of the instant invention. Accordingly, Applicants submit that the Examiner has failed to establish an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(b), and that the instant rejections are improper and should be withdrawn.

Further still, Applicants submit that even if it is considered that the prior art documents anticipate the invention recited in the independent claims, which Applicants submit they do not, the applied documents fail to anticipate the various recited parameters of the formers and/or their arrangement within the apparatus for producing the multilayered web in accordance with the features of the instant invention. Thus, Applicants submit that claims 47, 74, and 76 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Applicants further submit that claims 47, 74 and 76 are

separately patentable TURNER. In particular, Applicants submit that TURNER fails to anticipate, *inter alia*, the fibrous web comprises one of a paper web and cardboard web, as recited in claim 47; uniform pressure dewatering elements for web dewatering, as recited in claim 74; the fibrous web comprises one of a paper web or a cardboard web, as recited in claim 76.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 46, 47, and 74 - 76 under 35 U.S.C. § 102(b), and indicate that these claims are allowable.

Traversal of Rejection Under 35 U.S.C. § 103(a)

Applicants traverse the rejection of claims 48 - 52, 62 - 73, 75 - 80, and 89 - 97 under 35 U.S.C. § 103(a) as being unpatentable over TURNER. The Examiner asserts that, while TURNER fails to disclose various recited features of the instant invention, the Examiner asserts that these features are functionally equivalent element and the use of one for the other would have been obvious. Applicants traverse the Examiner's assertions.

Applicants submit that, because TURNER expressly discloses that both surfaces of both plies are dewatered so as to have a more uniform distribution of fines, fillers and fibers, and because it is the intention of TURNER that this dewatering procedure produce a web in which both sides of the web are more nearly the same, TURNER fails to teach or suggest the subject matter noted above as deficient in TURNER.

That is, Applicants submit that TURNER fails to teach or suggest producing a individual layers in which each layer has a side having a higher content of fines than the other side, and fails to teach that these sides having the higher fines content are couched together, as recited in at least independent claims 46 and 75. Moreover, as discussed above, it appears as if the Examiner's interpretation of what TURNER discloses is colored by his review of Applicants' disclosure. Similarly, Applicants submit that the Examiner's assertions of obviousness are likewise based upon an improper interpretation of TURNER as a result of a review of Applicants' invention.

Accordingly, Applicants submit that TURNER fails to provide the requisite motivation or rationale for modification in the manner asserted by the Examiner, and that the Examiner's assertions of obviousness are based, not upon any particular teaching or suggestion provided in TURNER, but instead is based upon an improper reading of TURNER after reviewing Applicants' disclosure. Thus, Applicants submit that the instant obviousness rejection is based upon the use of impermissible hindsight, such that Applicants invention suggests the Examiner's interpretation of the art of record.

Further, because it fails to provide any teaching or suggestion with regard to forming a web ply having a surface with a higher fines content than its other surface, Applicants submit that TURNER cannot teach or suggest the recited apparatus and/or process features of the present invention that achieve this result.

Accordingly, Applicants submit that no proper modification of TURNER teaches or suggests the combination of features recited in at least the independent claims, and, therefore, that TURNER fails to render unpatentable the instant invention.

Moreover, while the Examiner has made sweeping assertions regarding the interchangeability of various formers, he has not provided any teaching or suggestion that it would have been obvious or even possible for these formers to produce a web layer having a higher content of fines on one side, as is recited in the pending claims.

Still further, Applicants note that the Examiner has not provided any documentary evidence that changing the former of TURNER would not prevent TURNER from forming its intended web plies, i.e., to be uniform on each side with regard to fines, fillers and fibers, and to exhibit a higher content of fines than fillers on both sides of each ply. In other words, while generally speaking formers are utilized for similar purposes, i.e., to form and dewater the web, there is no teaching or suggestion that any of the formers noted by the Examiner would achieve the desired results of TURNER.

Moreover, Applicants submit that, if the desired results of TURNER are not achieved by the asserted modification, then it would not have been obvious to modify TURNER in the manner set forth by the Examiner. Further, Applicants note that it is the Examiner's burden to show that the asserted modification would not be contrary to the intended operation of TURNER, which the Examiner has not shown.

Further, Applicants submit that even if it is considered that the prior art documents anticipate the invention recited in the independent claims, which Applicants submit they do not, the applied documents fail to anticipate the various recited parameters of the formers and/or their arrangement within the apparatus for producing the multilayered web in accordance with the features of the instant invention. Thus, Applicants submit that claims 48 - 52, 62 - 73, 76 - 80, and 89 - 97 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Applicants further submit that claims 48 - 52, 62 - 73, 76 - 80, and 89 - 97 are separately patentable TURNER. In particular, Applicants submit that TURNER fails to teach or suggest, *inter alia*, said at least one gap former comprises two circulating continuous dewatering belts convergently arranged to form a headbox nip, and in which said dewatering belts are guided in an area of said headbox nip over a forming element, as recited in claim 48; a headbox arranged to supply a fibrous suspension to said headbox nip, as recited in claim 49; said forming element comprises a forming roll, as recited in claim 50; said at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of said at least two layers occurs on a forming element side, as recited in claim 51; the web travel directions of said first and second gap formers are opposite each other, as recited in claim 52; a first layer of the at least two layers to be couched together, is created

by a fourdrinier former and sheet formation of the first layer occurs with the higher content of fines on an outer side facing away from a continuous wire, and wherein a second layer is created by said at least one gap former and sheet formation occurs in the second layer with a higher content of fines on the forming element side, as recited in claim 62; a stream direction of a headbox associated with said first gap former correlates in general with the travel direction of the first layer created by said fourdrinier former, as recited in claim 63; the second layer created by said at least one gap former is introduced, after a separation of said two dewatering belts of said at least one gap former, together with said outer dewatering belt into said couching zone in which the second layer is joined with said continuous belt for the first and second layers to be couched together, as recited in claim 64; said continuous wire is guided in said couching zone in a generally horizontal direction, as recited in claim 65; a second gap former arranged to form a third layer, wherein sheet formation of the third layer occurs with a higher content of fines on a forming element side, and wherein the third layer is couched together with the second layer in a second couching zone, as recited in claim 66; the stream direction of a headbox associated with said second gap former corresponds to the travel direction of the first layer created by said fourdrinier former, as recited in claim 67; the third layer is introduced after separation of said two dewatering belts of said second gap former together with said outer dewatering belt into said second couching zone, wherein the second layer is brought together with said continuous belt for couching together the second

and third layers formed by said first and second gap formers, as recited in claim 68; said continuous wire is guided at least in the area of said couching zones in a generally horizontal direction, as recited in claim 69; at least one additional gap former arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other, as recited in claim 70; the stream direction of said headbox associated with said at least one additional gap former corresponds to the travel direction of the fibrous web to be created, as recited in claim 71; at least one of a multi-layered headbox and a single layered headbox is provided, as recited in claim 72; at least one single layered headbox is provided, as recited in claim 73; the fibrous web comprises one of a paper web or a cardboard web, as recited in claim 76; the at least one gap former comprises two circulating continuous dewatering belts that run together forming a headbox nip and which are guided in the area of the headbox nip, loaded with a fibrous suspension by a headbox, over a forming element, as recited in claim 77; the forming element comprises a forming roll, as recited in claim 78; the at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of

said at least two layers occurs on a forming element side, as recited in claim 79; the first and second gap formers are operated in opposite web travel directions, as recited in claim 80; the first of the at least two layers to be couched together is created by a fourdrinier former and sheet formation of the first layer occurs with a higher content of fines on the outside facing away from the continuous wire, and the second layer is created by the at least one gap former and sheet formation occurs in the second layer with a higher content of fines on a forming element side, as recited in claim 89; the stream direction of a headbox associated with the first gap former correlates in general with the travel direction of the first layer created by the fourdrinier former, as recited in claim 90; the second layer created by the at least one gap former is guided to the couching zone after separation of the two dewatering belts of the at least one gap former together with the outer dewatering belt, in which the second layer is joined together with the continuous belt for the first and second layers to be couched together, as recited in claim 91; a second gap former is arranged to form a third layer wherein sheet formation of the third layer occurs with a higher content of fines on the forming element side, and wherein the third layer is couched together with the second layer in a second couching zone, as recited in claim 92; the stream direction of a headbox associated with the second gap former corresponds to the travel direction of the first layer formed by the fourdrinier former, as recited in claim 93; the third layer is introduced after separation of the two dewatering belts of the second gap former together with the outer dewatering belt

into the second couching zone in which it is brought together with the continuous belt for the couching of the second and third layer formed by the first and second gap formers, as recited in claim 94; at least one additional gap former is arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other, as recited in claim 95; the stream direction of a headbox associated with the additional gap former corresponds to the travel direction of the fibrous web to be created, as recited in claim 96; and at least one of a multi-layered headbox and single-layered headbox is used, as recited in claim 97.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 48 - 52, 62 - 73, 75 - 80, and 89 - 97 under 35 U.S.C. § 103(a), and indicate that these claims are allowable.

Application is Allowable

Thus, Applicants respectfully submit that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 102 and 103, and respectfully request the Examiner to indicate allowance of each and every pending claim of

the present invention.

Authorization to Charge Deposit Account

The Commissioner is authorized to charge to Deposit Account No. 19 - 0089 any necessary fees, including any extensions of time fees required to place the application in condition for allowance by Examiner's Amendment, in order to maintain pendency of this application.

CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicants' invention, as recited in each of claims 46 - 97. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Respectfully submitted,
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APPENDIX

Marked-Up Copies of the Amended Claims:

53. (Amended) A [The] machine [according to claim 52,] for the production of a multi-layered fibrous web, comprising:

at least two formers for forming at least two layers in which each layer has a higher content of fines on one side respectively;

a couching zone in which the at least two layers are couched together such that each layer's side having a higher content of fines contact each other, wherein at least one of the at least two formers comprises at least one gap former including two circulating continuous dewatering belts convergently arranged to form a headbox nip, and in which said dewatering belts are guided in an area of said headbox nip over a forming element; and

a headbox arranged to supply a fibrous suspension to said headbox nip,

wherein said at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of said at least two layers occurs on a forming element side, and the web travel directions of said first and second gap formers are opposite each other, and

wherein a first layer created in said first gap former is guided together with at least one of said two dewatering belts around a deflection element, and then introduced via a continuous belt, traveling in a generally opposite direction to a stream direction of said headbox, into said couching zone in which the first layer and a second layer formed by said

second gap former are couched together so that their sides having a higher content of fines come into contact with each other.

81. (Amended) A [The] process [according to claim 80,] for the production of a multi-layered fibrous web, comprising:

forming at least two layers via at least two formers, such that each layer has a side with a higher fines content;

couching together the at least two layers in a couching zone so that the sides with higher fines content contact each other;

wherein at least one of the at least two layers is formed by at least one gap former comprising two circulating continuous dewatering belts that run together forming a headbox nip and which are guided in the area of the headbox nip, loaded with a fibrous suspension by a headbox, over a forming element,

wherein the at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of said at least two layers occurs on a forming element side, and the first and second gap formers are operated in opposite web travel directions, and

wherein a first layer formed in the first gap former is guided together with at least one of the two dewatering belts around a deflection element, and then via a continuous belt is introduced in a direction generally opposite to the travel direction of a first headbox into the

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couching zone in which the first layer and a second layer formed by the second gap former are couched together so that their sides having a higher content of fines come into contact with each other.